

Rejection Under 35 U.S.C. § 103(a)

The Examiner rejected claims 1-5 under 35 U.S.C. § 103(a) as unpatentable over Niewohner et al., (WO 99/24433) in view of Dale et al., (Org. Proc. Res. Dev. 4:17-22, 2000) and Knaggs et al., (Sulfonation and Sulfation, Kirk-Othmer Encyclopedia of Chemical Technology, pages 1-13, 2000) (Paper No. 9, pages 2-5). Applicants respectfully traverse.

To properly maintain a rejection under 35 U.S.C. § 103, three conditions must be met. First, the prior art must have suggested to those of ordinary skill in the art that they should make the claimed composition or device or carry out the claimed process. Second, the prior art must also have revealed that in so making or carrying out, those of ordinary skill in the art would have a reasonable expectation of success. Both the suggestion and the reasonable expectation of success must be adequately founded in the prior art and not in the Applicant's disclosure. Finally, the prior art reference must teach or suggest all the claim limitations. *See In re Vaeck*, 20 USPQ2d 1438, 1442 (Fed. Cir. 1991).

The present invention relates to a process for the preparation of sulphonamide-substituted imidazotriazinones. Specifically, an imidazotriazinone is reacted with sulfuric acid, and the product of this reaction is then reacted with thionyl chloride and an amine to yield a sulphonamide-substituted imidazotriazinone.

Niewohner et al., discloses substituted imidazotriazinones; however, the process disclosed by Niewohner et al., utilizes direct chlorosulfonation by reacting the compound with chlorosulfonic acid followed by a reaction with an amine. As acknowledged by the Examiner, Niewohner et al., does not teach or suggest the process of the present invention, that is, reacting an imidazotriazinone with sulfuric acid, and then reacting the product of this reaction with thionyl chloride and an amine to yield a sulphonamide-substituted imidazotriazinone. Therefore, Applicants do not see where there is a suggestion to utilize the process of the present invention to prepare a sulphonamide-substituted imidazotriazinone. Furthermore, nothing suggests that if such a process were utilized that said process would be yield a sulphonamide-substituted imidazotriazinone. Thus, based on the disclosure of Niewohner et al., one skilled in the art would not have been motivated to utilize the process of the present invention with a reasonable expectation of success, that is, to prepare a sulphonamide-substituted imidazotriazinone.

The deficiencies of Niewohner et al., are not remedied by Dale et al., and Knagg et al. Dale et al., discloses the chlorosulphonation of 2-ethoxybenzoic acid (*see, e.g.*, page 18, second column and Figure 1). Specifically, 2-ethoxybenzoic acid is reacted with a mixture of thionyl chloride and chlorosulphonic acid to yield chlorosulphonyl-2-ethoxybenzoic acid (*see, e.g.*, page 21, first column). Dale et al., does not teach or suggest the process of the present invention, that is, reacting an imidazotriazinone with sulfuric

acid, and then reacting the product of this reaction with thionyl chloride and an amine to yield a sulphonamide-substituted imidazotriazinone. Therefore, based on the disclosure of Dale et al., one skilled in the art would not have been motivated to utilize the process of the present invention, and furthermore, one skilled in the art would not have a reasonable expectation of success, that is, the process would yield a sulphonamide-substituted imidazotriazinone.

Knagg et al., provides a general overview of sulfonation, sulfation, and possible reagents. However, Knagg et al., also discloses that the reactivity of some compounds is so high that alternative reagents may be used to minimize undesirable by-products (*see, e.g.*, page 1). For example, Knagg et al., mentions that the use of concentrated sulfuric acid causes the sulfonation reaction of benzene to reach reflux equilibrium after almost 30 hours at only an 80% yield and the by-product is water, and furthermore suggests that other reagents (e.g., sulfur trioxide) are preferred (*see, e.g.*, page 1 and 2). Thus, Knagg et al., does not teach or suggest the process of the present invention, that is, reacting an imidazotriazinone with sulfuric acid, and then reacting the product of this reaction with thionyl chloride and an amine to yield a sulphonamide-substituted imidazotriazinone. Furthermore, based on the disclosure of the cited reference, one skilled in the art would not have a reasonable expectation of success, that is, reacting an imidazotriazinone with sulfuric acid would yield a sulphonamide-substituted imidazotriazinone.

Since the combination of references does not teach every element of the claimed invention, these references cannot be combined to support a rejection of the claims under U.S.C. § 103(a). MPEP § 2143.

It is therefore respectfully submitted that Niewohner et al., either singly or in combination with Dale et al., and Knaggs et al., fail to teach or suggest the process as presently claimed, and that the current invention is novel and nonobvious in view of the prior art references. For the foregoing reasons, Applicants respectfully request reconsideration and withdrawal of the present rejection.

CONCLUSION

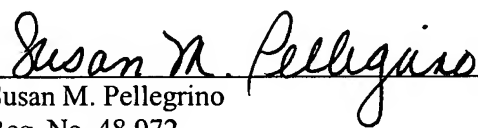
For the foregoing reasons, Applicants submit that the claims are in condition for allowance and Applicants respectfully request reexamination of the present application. Should there be any further matter requiring consideration, Examiner Balasubramanian is invited to contact the undersigned counsel.

If there are any further fees due in connection with the filing of the present reply, please charge the fees to undersigned's Deposit Account No. 13-3372. If a fee is required for an extension of time not accounted for, such an extension is requested and the fee should also be charged to undersigned's deposit account.

Respectfully submitted,

June 24, 2003

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